a plurality of vias positioned to sequentially connect an end of individual upper plates to individual lower plates so as to provide a helix structure centered around the transmission line;

a plurality of secondary plates embedded into the helix structure which are parallel to the transmission line;

at least one capacitive element electrically connected to one end of said helix structure;

at least one resistive element electrically connected to an opposite end of the helix structure from the at least one capacitive element; and

a ground layer positioned below the plurality of interconnecting lower plates and above the plurality of interconnecting upper plates.

2. (Once Amended) A device as in claim 1, wherein the at least one transmission line, at least one forward coupler, and at least one reverse coupler are microstrip resonators.

3. (Once Amended) A device as in claim 1, wherein the at least one transmission line, at least one forward coupler, and at least one reverse coupler are stripline resonators.

4. (Twice Amended) A multi-element directional coupler used with a multi-layer printed circuit board comprising:

a first coupling structure connected to a radio frequency source;

a plurality of second coupling structures positioned above the first coupling structure;

a plurality of third coupling structures positioned below the first coupling structure;

a plurality of vias for connecting individual segments of the plurality of second coupling structures with individual segments of the plurality of third coupling structures so as to provide a helix structure with axis of rotation centered around the first coupling structure;

a plurality of secondary plates embedded into the plurality of second coupling structures;

a plurality of secondary plates embedded into the plurality of third coupling structures;

a ground layer positioned above the plurality of second coupling structures for providing isolation; and

a ground layer positioned below the plurality of third coupling for providing isolation.

5. (Unchanged) A multi-element directional coupler according to claim 4, wherein the first coupling structure is a RF transmission line.

6. (Unchanged) A multi-element directional coupler according to claim 5, wherein the RF transmission line is a stripline.

7. (Unchanged) A multi-element directional coupler according claim 5, wherein the RF transmission line is a microstrip.

8. (Unchanged) A multi-element directional coupler according to claim 4, wherein the helix structure is a forward power coupler.

9. (Unchanged) A multi-element directional coupler according to claim 8, wherein the helix structure is an reverse power coupler.

10. (Unchanged) A multi-element directional coupler according to claim 4, wherein the plurality of secondary plates embedded into the plurality of second coupling structures are positioned parallel with the first coupling structure.

11. (Twice Amended) A multi-element directional coupler according to claim 4, wherein the plurality of secondary plates embedded into the plurality of third coupling structures are positioned parallel with the first coupling structure.

12. (Twice Amended) A radio frequency (RF) power coupling device comprising:

at least one transmission line for conducting RF energy applied thereto;

a first plurality of upper connecting structures positioned above the at least one transmission line for providing connectivity for coupled RF energy traveling on the at least one transmission line;

a second plurality of lower connecting structures positioned below the at least one transmission line for providing connectivity for coupled RF energy applied thereto and traveling on the at least one transmission line;

a plurality of vias for connecting individual segments of the first plurality of upper connecting structures with individual segments of the second plurality of lower connecting structures so as to provide a helix geometric structure;

a first ground layer positioned above the plurality of upper connecting structures for isolating the at least one

transmission line and the plurality of upper connecting structures from outside RF interference; and

a second ground layer positioned below the plurality of lower connecting structures for isolating the at least one transmission line and the plurality of lower connecting structures from outside RF interference; and

wherein at least one via of the plurality of vias is positioned a predetermined distance from the transmission line for increasing coupling between the at least one transmission line and the helix structure.

13. (Once Amended) A radio frequency power coupling device as in claim 12, wherein the at least one transmission line, the first plurality of upper connecting structures and the second plurality of lower connecting structures are planar structures.

14. (Once Amended) A radio frequency power coupling device as in claim 12, wherein the at least one transmission line is a microstrip, the first plurality of upper connecting structures are air bridges and the second plurality of lower connecting structures are strip line.

15. (Twice Amended) A radio frequency power coupling device as in claim 12, wherein the at least one transmission line, the first plurality of upper connecting structures and the second plurality of lower connecting structures are a stripline resonator.

16. (Once Amended) A radio frequency power coupling device as in claim 12, further comprising:

at least one secondary structure embedded into the plurality of upper connecting structures each secondary

structure positioned a predetermined distance from the at least one transmission line, for increasing coupling between the at least one transmission line and the helix geometric structure.

17. (Once Amended) A radio frequency power coupling device as in claim 12, further comprising:

at least one secondary structure is embedded into the plurality of lower connecting structures, each secondary structure positioned a predetermined distance from the at least one transmission line, for increasing coupling between the at least one transmission line and the helix geometric structure.

19. (Once Amended) A radio frequency power coupling device as in claims 16 or 17 wherein the at least plurality of upper connecting structures and plurality of lower connecting structures are planar.

20. (Once Amended) A radio frequency power coupling device as in claim 16 or 17 wherein the secondary structure is parallel with the at least one transmission line, for increasing coupling between the at least one transmission line and helix geometric structure.

21. (Once Amended) A radio frequency power coupling device as in claim 16 or 17, wherein the at least one transmission line is positioned on a first substrate.

22. (Unchanged) A radio frequency power coupling device as in claim 20, wherein the plurality of upper connecting structures is positioned on a second substrate.

23. (Once Amended) A radio frequency power coupling device as in claim 21, wherein the plurality of connecting structures is positioned on a third substrate.

24. (Once Amended) A radio frequency power coupling device as in claim 22, wherein the second substrate and a third substrate are asymmetrically positioned a predetermined distance from the first substrate.

25. (Twice Amended) A method of increasing the coupling coefficient of a directional coupler device which includes a transmission line and at least one magnetic field coupling structure comprising the steps of:

positioning a first interconnecting structure in a second plane parallel to and in an adjacent plane with the transmission line;

positioning a second interconnecting structure in a third plane parallel to and in an adjacent plane with the transmission line;

aligning at least one magnetic field coupling at a predetermined distance from and parallel to the transmission line;

electrically interconnecting the at least one magnetic field coupling structure with the first and second interconnecting structure; and

electrically interconnecting the first and second interconnecting structure using at least one via.

26. (Unchanged) A method as in claim 25, wherein the at least one magnetic field coupling device is a forward power coupler.